IN THE CLAIMS:

Please amend Claims 1, 4, 7-11, 13, 15, 19, 24-26, 28, 30-33 and add new Claims 34-62 as follows.

1. (Currently Amended) A lattice comparison method comprising:

receiving first and second lattices of labels to be compared, each lattice defining alternative label sequences that represent a sequential signal and each lattice comprising a plurality of nodes each associated with one or more labels and representing a point in the sequential signal at which the associated label occurs; and

comparing the first lattice with the second lattice by propagating a plurality of paths, each path representing a comparison between labels in the first lattice and labels in the second lattice, and each path having an associated accumulative value representing the closeness of the comparison;

wherein during the path propagation, said comparing step defines, for each node in the first lattice, a plurality of associated storage areas, each storage area associated with a first lattice node also being associated with a respective node in the second lattice and being operable to store, during the path propagation, an accumulative value representing the closeness of the comparison between labels in the first lattice up to the associated first lattice node and labels in the second lattice up to the associated second lattice node; and

wherein said comparing step uses said storage areas during the propagation of said paths.

2. (Original) A method according to claim 1, wherein each lattice comprises an acyclic directed graph representing different label sequences that represent said sequential signal.

3. (Original) A method according to claim 1 or 2, wherein said comparing step propagates said paths by processing the nodes within the said first lattice in sequential order.

4. (Currently Amended) A method according to ~~any preceding~~ claim 1, wherein when propagating a path from a source node in said first lattice to a destination node in said first lattice, said comparing step updates and propagates accumulative values stored in the storage areas associated with the source node to at least the storage areas associated with the destination node.

5. (Original) A method according to claim 4, wherein during the propagation of said accumulative values, said comparing step compares the appropriate accumulative value in the storage area associated with the destination node with the updated accumulative value from the storage area associated with the source node.

6. (Original) A method according to claim 5, wherein said comparing step replaces the accumulative value in the storage area associated with the destination node with the updated accumulative value from the storage area associated with the source node if the

updated accumulative value is better than the accumulative value stored in the storage area associated with the destination node.

7. (Currently Amended) A method according to ~~any of claims 4 to 6~~ claim 4, wherein said comparing step updates the accumulative values stored in the storage areas associated with the source node to take into account for substitution of the corresponding labels in the first lattice and the corresponding labels in the second lattice.

8. (Currently Amended) A method according to ~~any of claims 4 to 7~~ claim 4, wherein said comparing step updates the accumulative values stored in the storage areas associated with the source node to take into account the insertion of labels in the first lattice and/or in the second lattice.

9. (Currently Amended) A method according to ~~any of claims 4 to 8~~ claim 4, wherein said comparing step updates the accumulative value stored in the storage areas associated with the source node to take into account the deletion of labels from the first lattice and/or from the second lattice.

10. (Currently Amended) A method according to ~~any of claims 4 to 9~~ claim 4, wherein said comparing step updates the accumulative value stored in the storage areas associated with the source node to take into account the substitution, insertion and deletion of

labels from the first lattice and/or second lattice and wherein the storage area to which an updated score is propagated depends upon whether a label is substituted, inserted or deleted from the first lattice and/or the second lattice.

11. (Currently Amended) A method according to ~~any of claims 4 to 10~~ claim 4, wherein said comparing step updates the accumulative values stored in the storage areas associated with the source node by comparing the corresponding labels in the first lattice with the corresponding labels in the second lattice.

12. (Original) A method according to claim 11, wherein said comparing step updates said accumulative values by using predetermined confusion data which defines measures of confusability between the different labels.

13. (Currently Amended) A method according to ~~any of claims 4 to 12~~ claim 4, wherein said first lattice is generated by a recognition unit and includes confidence data associated with said labels indicative of the confidence that said recognition unit correctly recognised the label and wherein said comparing step updates said accumulative values stored in the storage areas associated with the source node using the confidence data fro the corresponding labels.

14. (Original) A method according to claim 13, wherein both said first and second lattices include said confidence data and wherein said comparing step updates said accumulative values using the confidence data for the respective labels from the first and second lattices.

15. (Currently Amended) A method according to ~~any preceding~~ claim 1, wherein said first and second signals are representative of time sequential signals.

16. (Original) A method according to claim 15, wherein said nodes within the said first and second lattices represent the start and/or end time of a label within the lattice.

17. (Original) A method according to claim 15 or 16, wherein said lattices are representative of speech and wherein said labels are representative of sub-word units.

18. (Original) A method according to claim 17, wherein said sub-word units comprise phonemes.

19. (Currently Amended) A method according to ~~any preceding~~ claim 1, further comprising the step of processing the accumulative values stored for a node, to determine a similarity measure representing the similarity between the first and second lattices.

20. (Original) A method according to claim 19, wherein the second lattice represents a longer sequence than the first lattice and wherein the processing step processes the accumulative values stored for the node to determine if the second lattice includes one or more portions similar to the first lattice.

21. (Original) A method according to claim 20, wherein said processing step compares the accumulative values in the storage areas of the node to identify values better than a predetermined threshold, to identify said one or more portions in the second lattice which are similar to the fist lattice.

22. (Original) A method according to claim 21, wherein said processing step identifies said one or more portions by identifying the storage areas having an accumulative value better than said threshold.

23. (Original) A method according to claim 21 or 22, wherein the sequence length of the first lattice is known, wherein when said processing step identifies an accumulative value better than said threshold, the second lattice node associated with the identified accumulative value represents the end of said portion corresponding to said first lattice and wherein said processing step estimates a beginning of the portion within the second lattice using the known sequence length of the first lattice.

24. (Currently Amended) A method according to ~~any of claims 19 to 23~~ claim 19, wherein said processing step processes the accumulative values associated with an end node of the first lattice.

25. (Currently Amended) A method according to ~~any preceding~~ claim 1, wherein said comparing step performs a dynamic programming alignment and comparison between the first and second lattices.

26. (Currently Amended) A method according to ~~any preceding~~ claim 1, wherein the storage areas associated with a node in the first lattice are stored in a node table associated with the first lattice node.

27. (Original) A method according to claim 26, wherein said storage areas in said node tables are arranged in a sequential order defined by the sequential order of the associated nodes.

28. (Currently Amended) A method of searching a database comprising a plurality of information entries to identify information to be retrieved therefrom, each of said plurality of information entries having an associated annotation lattice, the method comprising:

receiving a query lattice representing an input query;

comparing the query lattice with each annotation lattice using the method of ~~any preceding~~ claim 1 to provide a set of comparison results; and

identifying said information to be retrieved from said database using the set of comparison results.

29. (Original) A method according ot claim 28, wherein said identifying step identifies the information to be retrieved from said database by identifying the annotation lattice most similar to the query lattice.

30. (Original) A method according to claim 28 or 29, wherein said identifying step identifies the N most relevant information entries by identifying those information entries having an annotation lattice most similar to the query lattice.

31. (Currently Amended) A lattice comparison apparatus comprising:

~~means for receiving~~ a receiver operable to receive first and second lattices of labels to be compared, each lattice defining alternative label sequences that represent a sequential signal and each lattice comprising a plurality nodes each associated with one or more labels and representing a point in the sequential signal at which the associated label occurs; and

~~means for comparing~~ a comparator operable to compare the first lattice with the second lattice by propagating a plurality of paths, each path representing a comparison

between labels in the first lattice and labels in the second lattice, and each path having an associated accumulative value representing the closeness of the comparison;

wherein during the path propagation, said ~~comparing means~~ comparator is operable to define, for each node in the first lattice, a plurality of associated storage areas, each storage area associated with a first lattice node also being associated with a respective node in the second lattice and being operable to store, during the path propagation, an accumulative value representing the closeness of the comparison between labels in the first lattice up to the associated first lattice node and labels in the second lattice up to the associated second lattice node; and

wherein said ~~comparing means~~ comparator is operable to use said storage areas during the propagation of said paths.

32. (Currently Amended) A computer readable medium storing computer executable instructions for causing a programmable computer device to carry out the method of ~~any of claims 1 to 30~~ claim 1.

33. (Currently Amended) Computer executable instructions for causing a programmable computer device to carry out the method of ~~any of claims 1 to 30~~ claim 1.

34. (New) An apparatus according to claim 31, wherein each lattice comprises an acyclic directed graph representing different label sequences that represent said sequential signal.

35. (New) An apparatus according to claim 31, wherein said comparator is operable to propagate said paths by processing the nodes within the said first lattice in sequential order.

36. (New) An apparatus according to claim 31, wherein when propagating a path from a source node in said first lattice to a destination node in said first lattice, said comparator is operable to update and to propagate accumulative values stored in the storage areas associated with the source node to at least the storage areas associated with the destination node.

37. (New) An apparatus according to claim 36, wherein during the propagation of said accumulative values, said comparator is operable to compare the appropriate accumulative value in the storage area associated with the destination node with the updated accumulative value from the storage area associated with the source node.

38. (New) An apparatus according to claim 37, wherein said comparator is operable to replace the accumulative value in the storage area associated with the destination node with the updated accumulative value from the storage area associated with the source node

if the updated accumulative value is better than the accumulative value stored in the storage area associated with the destination node.

39. (New) An apparatus according to claim 36, wherein said comparator is operable to update the accumulative values stored in the storage areas associated with the source node to take into account for substitution of the corresponding labels in the first lattice and the corresponding labels in the second lattice.

40. (New) An apparatus according to claim 36, wherein said comparator is operable to update the accumulative values stored in the storage areas associated with the source node to take into account the insertion of labels in the first lattice and/or in the second lattice.

41. (New) An apparatus according to claim 36, wherein said comparator is operable to update the accumulative value stored in the storage areas associated with the source node to take into account the deletion of labels from the first lattice and/or from the second lattice.

42. (New) An apparatus according to claim 36, wherein said comparator is operable to update the accumulative value stored in the storage areas associated with the source node to take into account the substitution, insertion and deletion of labels from the first lattice and/or second lattice and wherein the storage area to which an updated score is propagated

depends upon whether a label is substituted, inserted or deleted from the first lattice and/or the second lattice.

43. (New) An apparatus according to claim 36, wherein said comparator is operable to update the accumulative values stored in the storage areas associated with the source node by comparing the corresponding labels in the first lattice with the corresponding labels in the second lattice.

44. (New) An apparatus according to claim 43, wherein said comparator is operable to update said accumulative values by using predetermined confusion data which defines measures of confusability between the different labels.

45. (New) An apparatus according to claim 36, wherein said first lattice is generated by a recognition unit and includes confidence data associated with said labels indicative of the confidence that said recognition unit correctly recognised the label and wherein said comparator is operable to update said accumulative values stored in the storage areas associated with the source node using the confidence data for the corresponding labels.

46. (New) An apparatus according to claim 45, wherein both said first and second lattices include said confidence data and wherein said comparator is operable to update

said accumulative values using the confidence data for the respective labels from the first and second lattices.

47. (New) An apparatus according to claim 31, wherein said first and second signals are representative of time sequential signals.

48. (New) An apparatus according to claim 47, wherein said nodes within the said first and second lattices represent the start and/or end time of a label within the lattice.

49. (New) An apparatus according to claim 47, wherein said lattices are representative of speech and wherein said labels are representative of speech and wherein said labels are representative of sub-word units.

50. (New) An apparatus according to claim 39, wherein said sub-word units comprise phonemes.

51. (New) An apparatus according to claim 36, further comprising a processor operable to process the accumulative values stored for anode, to determine a similarity measure representing the similarity between the first and second lattices.

52. (New) An apparatus according to claim 51, wherein the second lattice represents a longer sequence than the first lattice and wherein the processor is operable to process the accumulative values stored for the node to determine if the second lattice includes one or more portions similar to the first lattice.

53. (New) An apparatus according to claim 52, wherein said processor is operable to compare the accumulative values in the storage areas of the node to identify values better than a predetermined threshold, to identify said one or more portions in the second lattice which are similar to the first lattice.

54. (New) An apparatus according to claim 53, wherein said processor is operable to identify said one or more portions by identifying the storage areas having an accumulative value better than said threshold.

55. (New) An apparatus according to claim 53, wherein the sequence length of the first lattice is known, wherein when said processor identifies an accumulative value better than said threshold, the second lattice node associated with the identified accumulative value represents the end of the said portion corresponding to said first lattice and wherein said processor is operable to estimate a beginning of the portion within the second lattice using the known sequence length of the first lattice.

56. (New) An apparatus according to claim 51, wherein said processor is operable to process the accumulative values associated with an end node of the first lattice.

57. (New) An apparatus according to claim 31, wherein said comparator is operable to perform a dynamic programming alignment and comparison between the first and second lattices.

58. (New) An apparatus according to claim 31, wherein the storage areas associated with anode in the first lattice are stored in a node table associated with the first lattice node.

59. (New) An apparatus according to claim 58, wherein said storage areas in said node tables are arranged in a sequential order defined by the sequential order of the associated nodes.

60. (New) An apparatus for searching a database comprising a plurality of information entries to identify information to be retrieved therefrom, each of said plurality of information entries having an associated annotation lattice, the apparatus comprising:

a receiver operable to receive a query lattice representing an input query;

a lattice comparison apparatus according to claim 31 for comparing the query lattice with each annotation lattice to provide a set of comparison results; and

an identifier operable to identify said information to be retrieved from said database using the set of comparison results provided by the lattice comparison apparatus.

61. (New) An apparatus according to claim 60, wherein said identifier is operable to identify the information to be retrieved from said database by identifying the annotation lattice most similar to the query lattice.

62. (New) An apparatus according to claim 60, wherein said set of comparison results includes at least one score representing the similarity between the query lattice and each annotation lattice and wherein said identifier is operable to identify the N most relevant information entries by ranking the scores within said set of comparison results to identify the N-best scores.